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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER ZHENG, LOIS L				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/579,550

Applicant(s)

LEUCHTE, JURGEN

Examiner

LOIS ZHENG

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 21-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 8/16/08 11/7/08

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention Group I, claims 1-20, in the reply filed on 28 August 2008 is acknowledged. The traversal is on the ground(s) that the subject matters of the invention groups are overlapping and does not pose a serious burden to the examiner. This is not found persuasive because the search direction for process claims, composition claims and product claims are substantially different. For example, the search scope for composition and product claims are not limited to the process steps that uses such composition or product steps that makes such product. Therefore, the search scopes for the composition and product claims are significantly larger than the search scope for the process claims. Since the examiner has shown that the special technical feature as claimed is previously taught by the prior art, the examiner maintains that the requirement is still deemed proper and is therefore made FINAL.

2. Claims 21-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention Groups II-III, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 28 August 2008.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 4, 6-12 and 14-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance,

- a. Claim 2 recites the broad recitation "temperature and atmospheric humidity are selected", and the claim also recites "preferably controlled in a temperature- and humidity-controlled chamber" which is the narrower statement of the range/limitation.
- b. Claim 4 recites the broad limitation of the rest temperature being in the range of 20-70°C and the rest atmospheric humidity in the range of 30-90%, and

the claim also recites a particular rest temperature of 25-55°C and a particular rest atmospheric humidity of 40-50% which are narrower statements of the range/limitation.

c. Claim 6 recites the broad limitation of the irrigation temperature being in the range of 20-70°C and the irrigation atmospheric humidity in the range of 30-95%, and the claim also recites a particular irrigation temperature of 25-55°C and a particular irrigation atmospheric humidity of 65-80% which are narrower statements of the range/limitation.

d. Claim 7 recites the broad recitation of the first rest time and the second rest time are each up to one week, and the claim also recites of the first and second rest times preferably from 2-3 days which is the narrower statement of the range/limitation.

e. Claim 8 recites the broad recitation of the irrigation time is up to one day, and the claim also recites of the irrigation time preferably from 5-10 hours which is the narrower statement of the range/limitation.

f. Claim 9 recites the broad limitation of a copper salt in a proportion from 1.5-20wt%, and the claim also recites a particular copper nitrate salt and a particular proportion of 3-5wt% which are narrower statements of the range/limitation.

g. Claim 10 recites the broad recitation of at least one zinc salt, and the claim also recites of zinc chloride which is the narrower statement of the range/limitation.

- h. Claim 11 recites the broad recitation of zinc salt concentration of 0.1-5 wt%, and the claim also recites of particular zinc salt concentration of 0.2-1wt% which is the narrower statement of the range/limitation.
- i. Claim 12 recites the broad recitation of chloride and carbonate additives, and the claim also recites of sodium chloride, ammonium chloride, calcium chloride and/or ammonium carbonate which is the narrower statement of the range/limitation.
- j. Claim 14 recites the broad recitation of a degreasing step, and the claim also recites of chemical degreasing in particular which is the narrower statement of the range/limitation.
- k. Claim 15 recites the broad recitation of a grinding or blasting treatment, and the claim also recites of a glass sandblasting in particular which is the narrower statement of the range/limitation.
- l. Claim 16 recites the broad recitation that the patination solution is applied in finely divided form, and the claim also recites of that the patination solution is sprayed on in particular which is the narrower statement of the range/limitation.
- m. Claim 17 recites the broad limitation of the treatment temperature being in the range of 30-70°C, and the claim also recites a particular treatment temperature of 40-55°C which is narrower statements of the range/limitation.
- n. Claim 18 recites the broad limitation that the patination solution is applied in at least two treatment steps, and the claim also recites preferably 4-5 treatment steps which is narrower statements of the range/limitation.

5. NOTE: For the purpose of this Office Action, the claims are interpreted and the rejection grounds are applied based on the broadest scope recited by the claims.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 9, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 697,294(GB'294)

GB'294 teaches a process of patinating copper articles by applying an aqueous coating solution by spraying wherein the coating solution comprises copper ions(page 1 lines 10-16 and 79-85) and subjecting the treated copper article to a maturing process(page 2 lines 1-15). Therefore, GB'294 reads on the claimed process as recited in claim 1-2, 9, 16 and 20.

8. Claims 1-6, 9-10, 12-13, 16-18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2003-089880(JP'880).

JP'880 teaches a process for patinating copper articles comprising treating the copper article with a patination solution comprising cupric chloride, zinc chloride and sodium chloride(abstract). JP'880 further teaches, in Example 1, that copper substrate is treated with the patination solution and kept in the atmosphere having humidity of 50-70% and temperature of 20-30°C (paragraph 0010).

Regarding claims 1-2 and 17, although JP'880 teaches that the patination solution can be applied with no specific temperature and humidity control, normal atmosphere, natural temperature and humidity as disclosed in Example 1 of JP'880 reads on the claimed maturing process and the claimed temperature and humidity selection.

Regarding claims 3-6, since the patination process of JP'880 can be applied and the maturing process occurs naturally outdoor, natural rain would have occurred periodically to the coated copper surface, which reads on the claimed article irrigating step. The dry weather before and after the raining weather reads on the claimed first and second resting steps with corresponding temperatures and humidity. The temperature and the humidity during the raining period in between dry periods would have been significantly similar to the temperature and the humidity of the dry periods as claimed.

Regarding claim 9, Example 1 of JP'880 shows that the amount of cupric chloride in the patination solution falls within the claimed 1.5-20wt%.

Regarding claims 10 and 12, JP'880 teach the claimed zinc chloride and sodium chloride in its patination solution.

Regarding claim 13, JP'880 further teaches that the copper substrate is roughened prior to being treated with the patination solution.

Regarding claim 16, JP'880 further teaches that the patination solution can be applied by spraying(paragraph 0007).

Regarding claim 18, JP'880 further teaches that the patination solution can be applied multiple times(paragraph 0009).

Regarding claim 20, JP'880 further teaches that the copper substrate may be material of different shapes as claimed(paragraph 0006).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'880.

The teachings of JP'880 are discussed in paragraph 7 above.

Regarding claims 7-8, the naturally occurring dry conditions in the process of JP'880 would have at least overlapped the claimed first and second resting time. The naturally occurring raining conditions in the process of JP'880 would have also at least overlapped the claimed irrigation time. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed first and second resting time and the claimed irrigation time from the disclosed ranges of JP'880 would have been obvious to one skilled in the art since JP'880 teaches the same utilities in its disclosed drying and raining conditions.

Regarding claim 11, although Example 2 of JP'880 teaches a patination solution comprising zinc chloride in a concentration that is higher than the claimed

concentration, one of ordinary skill in the art would have found it obvious to have varied the amount of zinc chloride in the patination solution of JP'880 via routine optimization in order to achieve desired coating properties such as color and brightness.

11. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'880, and further in view of Hoveling US 5,376,190(Hoveling).

The teachings of JP'880 are discussed in paragraphs 8 and 10 above. However, JP'880 does not explicitly teach that is surface roughening process is a grinding or blasting treatment. JP'880 also does not explicitly teach the claimed degreasing step.

Hoveling teaches a process for producing a patina coating on a copper surface (abstract), comprising applying a patina coating solution to copper substrate and store the coated copper substrate in a climate-controlled space(abstract). Hoveling further teaches that the copper substrate is first degreased and roughened by grinding prior to the patination treatment(col. 2 line 54 – col. 3 line 9).

Regarding claims 14-15, it would have been obvious to one of ordinary skill in the art to have incorporated the degreasing and grinding steps as taught by JP'880 into the patination process in order to clean the copper surface and increase the surface area of the copper substrate in preparation for receiving the patination coating as taught by Hoveling.

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'880, and further in view of Loye et al. US 4,416,940(Loye).

The teachings of JP'880 are discussed in paragraphs 8 and 10 above. However, JP'880 does not explicitly teach the claimed surface after treatment as claimed.

Loye teaches a two step coating process to produce a patina coating wherein a transparent top coat is applied after the patination base coat in order to have a copper metallic appearance when viewed by reflected light and a patina appearance by transmitted light(col. 4 lines 34-51).

Regarding claim 19, it would have been obvious to one of ordinary skill in the art to have incorporated the application of top coat as taught by Loye into the process of JP'880 in order to have a copper metallic appearance when viewed by reflected light and a patina appearance by transmitted light as taught by Loye.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LOIS ZHENG whose telephone number is (571)272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

LLZ